AMENDMENTS TO THE CLAIMS

1-20. (Cancelled)

21. (New) A nitride semiconductor LED, comprising:

a substrate;

a buffer layer on the substrate;

$Al_yGa_{1-y}N/GaN$ short period superlattice (SPS) layers on the buffer layer in a sandwich structure of upper and lower layers having an undoped GaN layer interposed therebetween (where $0 < y \leq 1$);

a first GaN based layer on the upper $Al_yGa_{1-y}N/GaN$ SPS layer;

an active layer on the first GaN based layer; and

a second GaN based layer formed on the active layer.

22. (New) The nitride semiconductor LED of claim 21, wherein the buffer layer has a triple-structured $Al_yIn_xGa_{1-(x+y)}N/In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$, $0 \leq y \leq 1$), a double-structured $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$), or a super-lattice-structured (SLS) $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$) or a single crystalline layer.

23. (New) The nitride semiconductor LED of claim 21, comprising an undoped GaN layer or an indium-doped GaN layer on the buffer layer, wherein the first GaN based layer is n type GaN based layer and the second GaN based layer is p type GaN based layer.

24. (New) A nitride semiconductor LED, comprising:

a substrate;

a buffer layer on the substrate;

$Al_yGa_{1-y}N/GaN$ short period superlattice (SPS) layers on the buffer layer in a sandwich structure of upper and lower layers having an undoped GaN layer or an indium-doped GaN layer interposed therebetween (where $0 < y \leq 1$);

a first GaN based layer above and in direct contact with the upper $Al_yGa_{1-y}N/GaN$ SPS layer;

an active layer above and in direct contact with the first GaN based layer; and

a second GaN based layer formed on the active layer.

25. (New) The nitride semiconductor LED of claim 24, wherein the buffer layer has a triple-structured $Al_yIn_xGa_{1-(x+y)}N/In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$, $0 \leq y \leq 1$), a double-structured $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$), or a super-lattice-structured (SLS) $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$) or a single crystalline layer.

26. (New) The nitride semiconductor LED of claim 24, comprising an undoped GaN layer or an indium-doped GaN layer on the buffer layer, wherein the first GaN based layer is n type GaN based layer and the second GaN based layer is p type GaN based layer.

27. (New) A nitride semiconductor LED, comprising:

a substrate;

a buffer layer on the substrate;

an undoped GaN layer or an indium-doped GaN layer on the buffer layer;

$Al_yGa_{1-y}N/GaN$ short period superlattice (SPS) layers on the undoped GaN layer or the indium-doped GaN layer, in a sandwich structure of upper and lower layers having the undoped GaN layer interposed therebetween (where $0 < y \leq 1$);

a first n type GaN based layer on the upper $Al_yGa_{1-y}N/GaN$ SPS layer and containing a high concentration of dopants;

a second n type GaN based layer on the first n type GaN based layer;

an active layer on the second n type GaN based layer; and

a first p type GaN based layer on the active layer.

28. (New) The nitride semiconductor LED of claim 27, wherein the buffer layer has a triple-structured $Al_yIn_xGa_{1-(x+y)}N/In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$, $0 \leq y \leq 1$), a double-structured $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$), or a super-lattice-structured (SLS) $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$) or a single crystalline layer.

29. (New) The nitride semiconductor LED of claim 27, wherein the dopant concentration of the first n type GaN based layer is more than $1x10^{18}/cm^3$.

30. (New) The nitride semiconductor LED of claim 27, wherein the dopant concentration of the second n type GaN based layer is less than $1x10^{18}/cm^3$.

31. (New) A nitride semiconductor LED, comprising:

a substrate;

a buffer layer on the substrate;

an undoped GaN layer or an indium-doped GaN layer on the buffer layer;

$Al_yGa_{1-y}N/GaN$ short period superlattice (SPS) layers on the undoped GaN layer or the indium-doped GaN layer, in a sandwich structure of upper and lower layers having the undoped GaN layer or the indium-doped GaN layer interposed therebetween (where $0 < y \leq 1$);

a first n type GaN based layer above and in direct contact with the upper $Al_yGa_{1-y}N/GaN$ SPS layer and containing a high concentration of dopants;

a second n type GaN based layer on the first n type GaN based layer;

an active layer on the second n type GaN based layer; and

a first p type GaN based layer on the active layer.

32. (New) The nitride semiconductor LED of claim 31, wherein the buffer layer has a triple-structured $Al_yIn_xGa_{1-(x+y)}N/In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$, $0 \leq y \leq 1$), a double-structured $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$), or a super-lattice-structured (SLS) $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$) or a single crystalline layer.

33. (New) The nitride semiconductor LED of claim 31, wherein the dopant concentration of the first n type GaN based layer is more than $1x10^{18}/cm^3$.

34. (New) The nitride semiconductor LED of claim 31, wherein the dopant concentration of the second n type GaN based layer is less than $1x10^{18}/cm^3$.

35. (New) A fabrication method of a nitride semiconductor LED, the method comprising the steps of:

forming a buffer layer on a substrate;

forming $Al_yGa_{1-y}N/GaN$ short period superlattice (SPS) layers on the buffer layer in a sandwich structure of upper and lower layers having an undoped GaN layer or an indium-doped GaN layer interposed therebetween (where $0 < y \leq 1$);

forming a first GaN based layer above and in direct contact with the upper $Al_yGa_{1-y}N/GaN$ SPS layer;

forming an active layer on the first GaN based layer; and

forming a second GaN based layer formed on the active layer.

36. (New) The fabrication method of claim 35, comprising a step of forming an n-GaN layer containing a low concentration of dopants, between the first GaN based layer of a n^+-GaN layer and the active layer.

37. (New) The fabrication method of claim 35, wherein the buffer layer has a triple-structured $Al_yIn_xGa_{1-(x+y)}N/In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$, $0 \leq y \leq 1$), a double-structured $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$), or a super-lattice-structured (SLS) $In_xGa_{1-x}N/GaN$ laminated (where $0 \leq x \leq 1$) or a single crystalline layer.

38. (New) The fabrication method of claim 35, comprising forming an undoped GaN layer or an indium-doped GaN layer on the buffer layer, wherein the first GaN based layer is n type GaN based layer and the second GaN based layer is p type GaN based layer.

39.(New) The fabrication method of claim 35, wherein forming the buffer layer is, using a MOCVD equipment, grown-up to have a 50-800 Å thickness at a 500-800 °C temperature and in an atmosphere having H_2 and N_2 carrier gases supplied while having TMGa, TMIn, TMAl source gas introduced and simultaneously having NH_3 gas introduced.

40. (New) The fabrication method of claim 35, wherein the dopant concentration of the first GaN based layer is more than $1x10^{18}/cm^3$.